FORCEnet
engineering conference

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Net Centric Technology Objectives

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FORCEnet Architecture & Standards Branch (N71F)

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Summary

- Scenesetters
- Process
  - Naval Capabilities Development
  - Joint Warfighting S&T
- Feedback

Key ITECH Deliverables

- Strategic Plan (w/ POA&M) to coordinate all FORCEnet-related RDT&E activities
- Development and execution of “Net-centric Technology Objectives” (NTO)
- Catalogue of all FORCEnet related investments, mapped to capabilities
- Development and execution of “Platform Wholeness Initiative”

Revolutionary Advances

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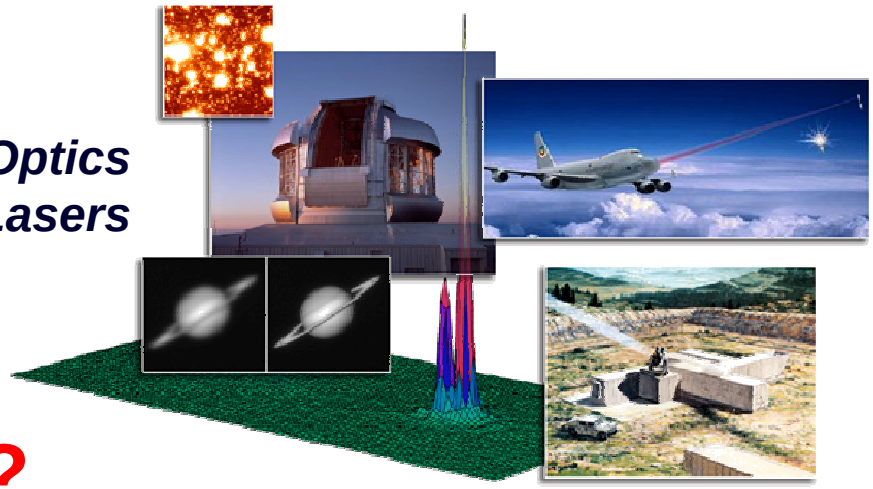
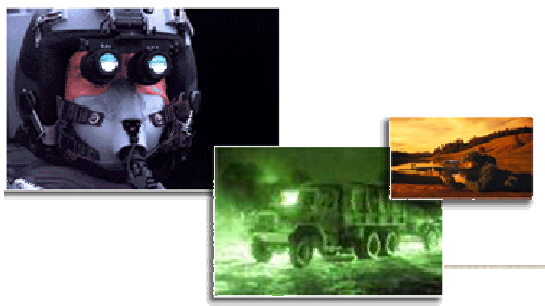
Stealth

Adaptive Optics and Lasers



Next ?

Night Vision



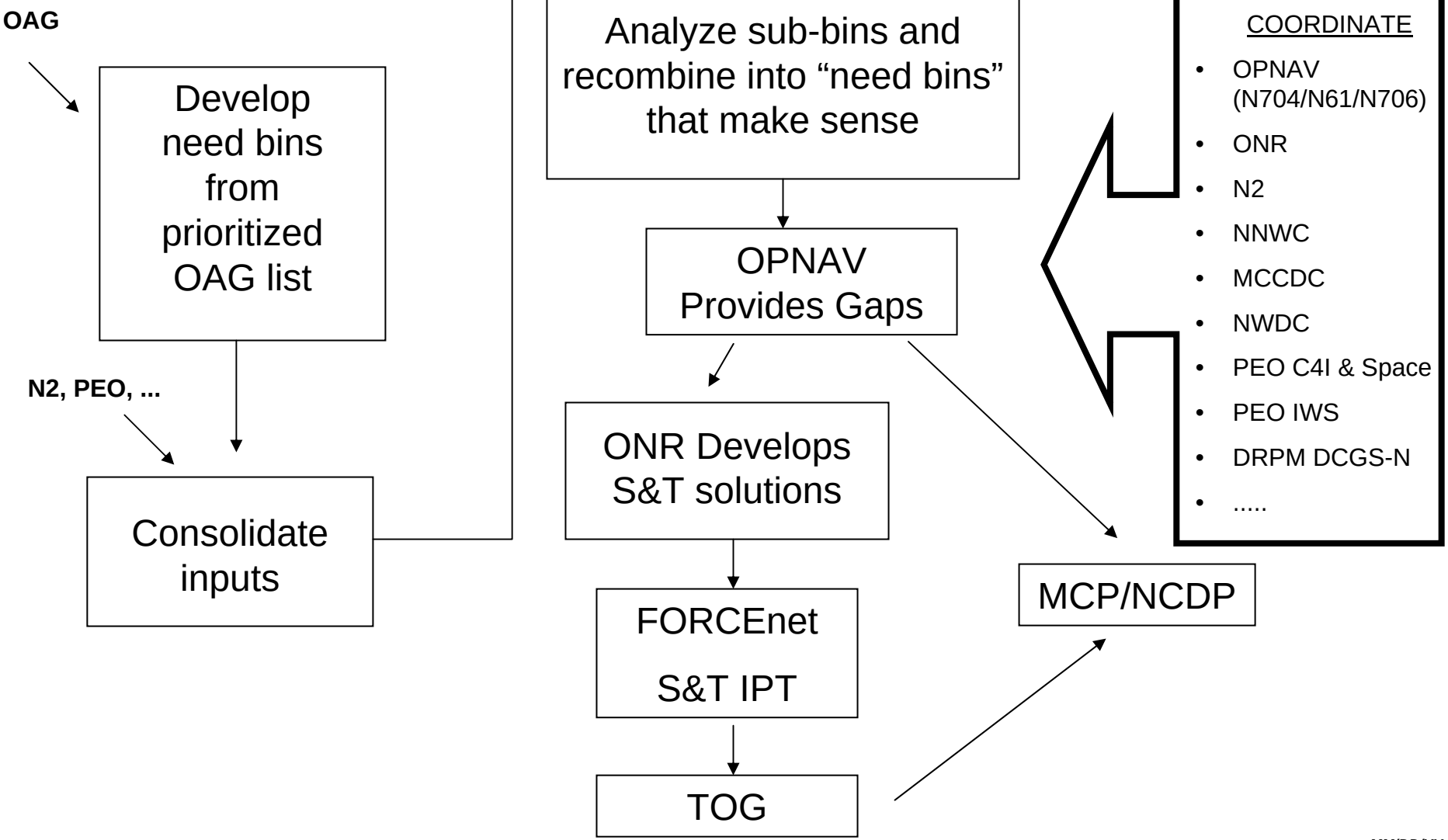
GPS

Phased Array Radar

Technology is About Human Beings

- Management is about human beings. Its task is to make people capable of joint performance, to make their strengths effective and their weaknesses irrelevant
- Every enterprise is s learning and teaching environment institution. Training and development must be built into it at all levels.
  - The Essential Drucker, Harper Collins, 2001

FORCEnet Process for PR07 S&T Gap Development



Fleet Top Ten

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1. Coalition Communications.
2. Reliable SATCOM.
3. Standards.
4. Lack Of Adequate Data Throughput.
5. Computer Network Defense (CND).
6. Common Operational Picture (COP).
7. Real-time Collaboration.
8. Streamlines Process To Support Emergent Operational Requirements.
9. Next Generation Knowledge Management (NGKM).
10. Incorporate Wireless Technology.

FORCEnet Focus Areas

(1) Common, Persistent Maritime picture - improving shared situational awareness across the force

(2) Computer Network Defense and Information Assurance - assured info

(3) Ubiquitous communications and network infrastructure - bandwidth management, IPv6, etc.

(4) Data link management & architecture - improving data link throughput

(5) Joint Combat ID - IFF and Blue Force Tracking

(6) Persistent and pervasive ISR

Currently Approved Investment

EC	Title
04-01	***Position Location Information***
04-03	***Real-Time Long Range Air Defense Combat ID in Support of Early Engagements***
04-05	***Marine and UxV Tactical ISR***
04-06	***Secure Collaboration***
04-08	***Advanced Communication for FORCEnet***
04-09	***GIG-Compliant Networking***
04-10	***Sea Base Collaborative C2***
06-01	***Combat ID information Management of Coordinated Electronic Surveillance***
07-01	***Combat ID in the Maritime Domain to Reveal Contact Intent***
07-02	***Automated Control of Large Sensor Networks***

POM 08 Focus Areas

3. Joint combat identification
5. ★ Persistent ISRT for accurate target discrimination and location
10. Optimal mix of naval sensors
11. Computer network defense and information assurance
16. ★ Ubiquitous, secure communications and network infrastructure
19. ★ Common and persistent maritime picture on/below the surface

EC 08-13: GWOT-focused ISR

EC 08-15: Low-cost Comm on the Move

EC 08-10: Comm & Networks to the Edge

EC 08-16: MDA for MCO-2

★ **Designated POM08 priority interest**

Capabilities-Based Planning

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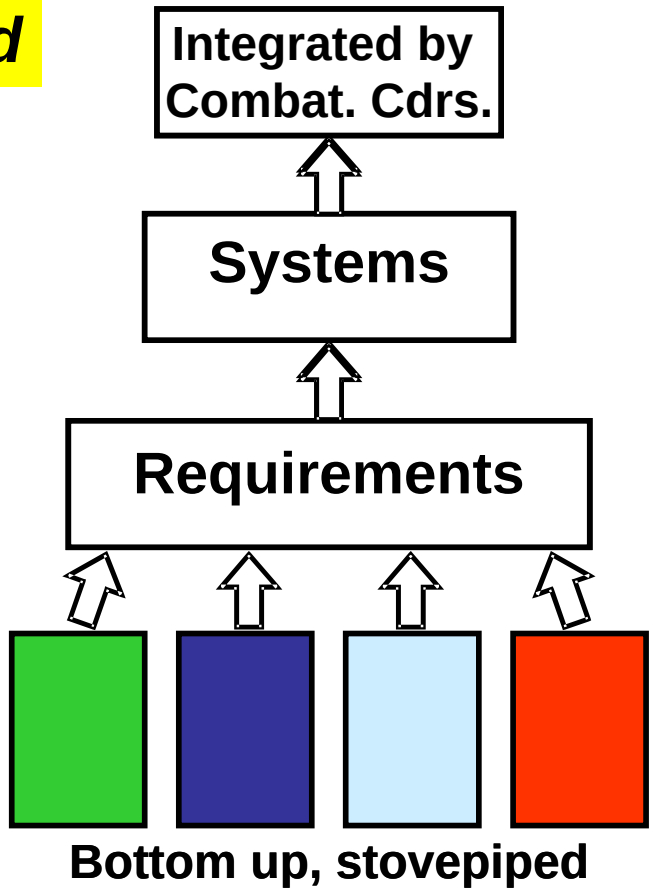
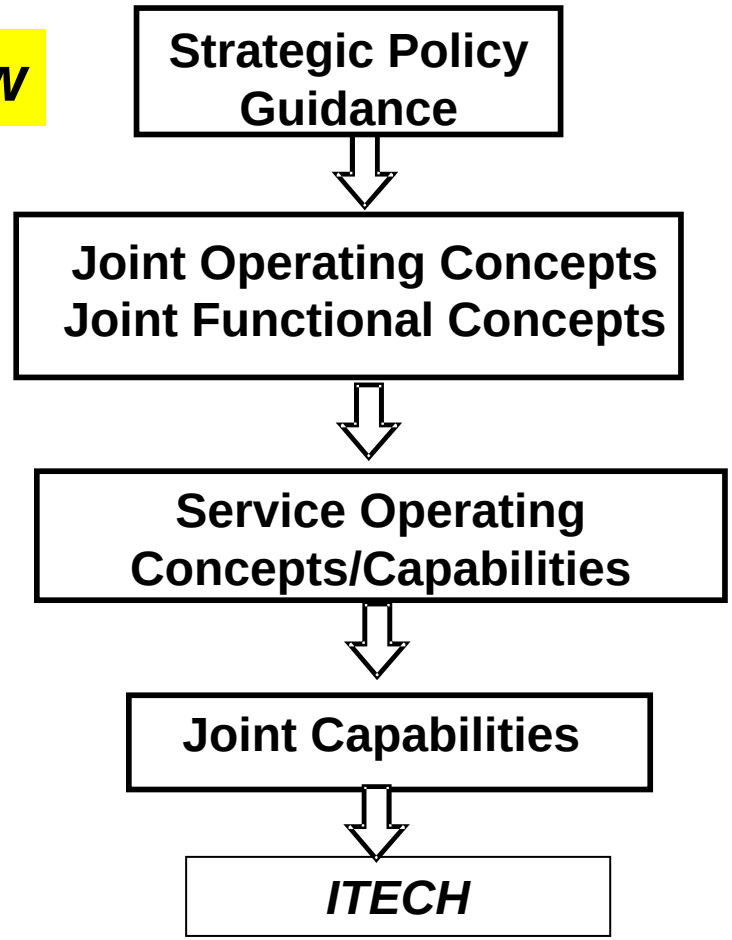
Old



Bottom up, stovepiped

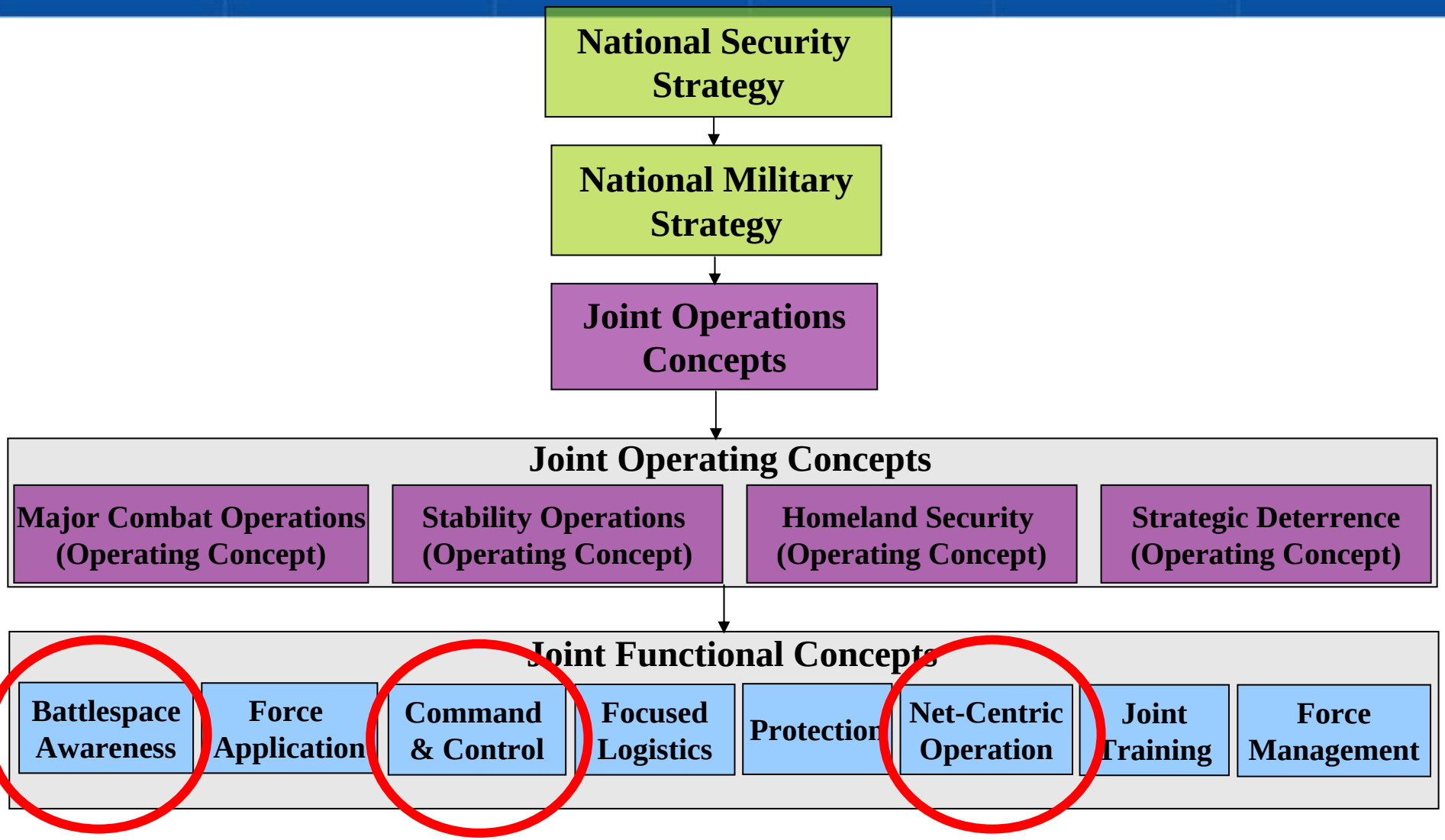
Systems Driven

New



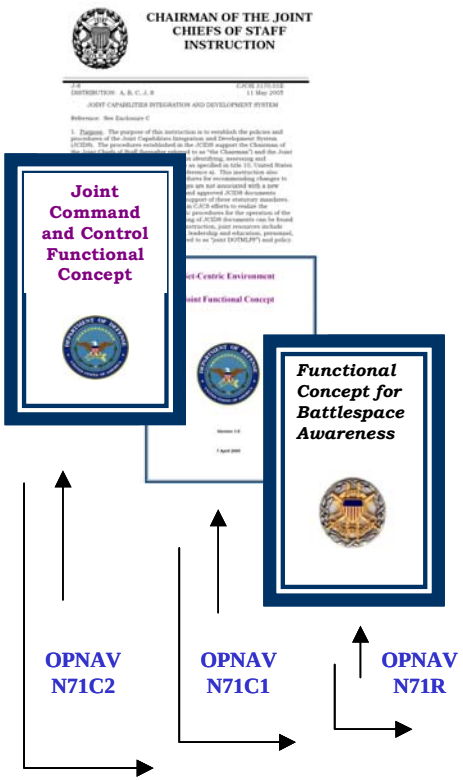
Capabilities Driven

Hierarchy of Joint Concepts



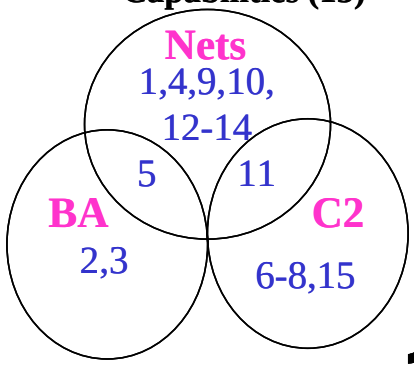
Alignment to Joint Capabilities

Joint Capabilities Integration and Development System



FORCEnet Functional Concept

FORCEnet Capabilities (15)



Naval Capabilities Development Process

COTP MCP

Nets MCP

ISR MCP

~ 34 Tasks

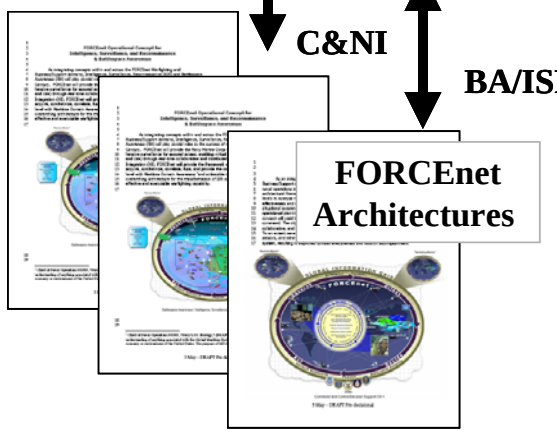
~ 32 Tasks

~ 14 Tasks

C2/DS

C&NI

BA/ISR

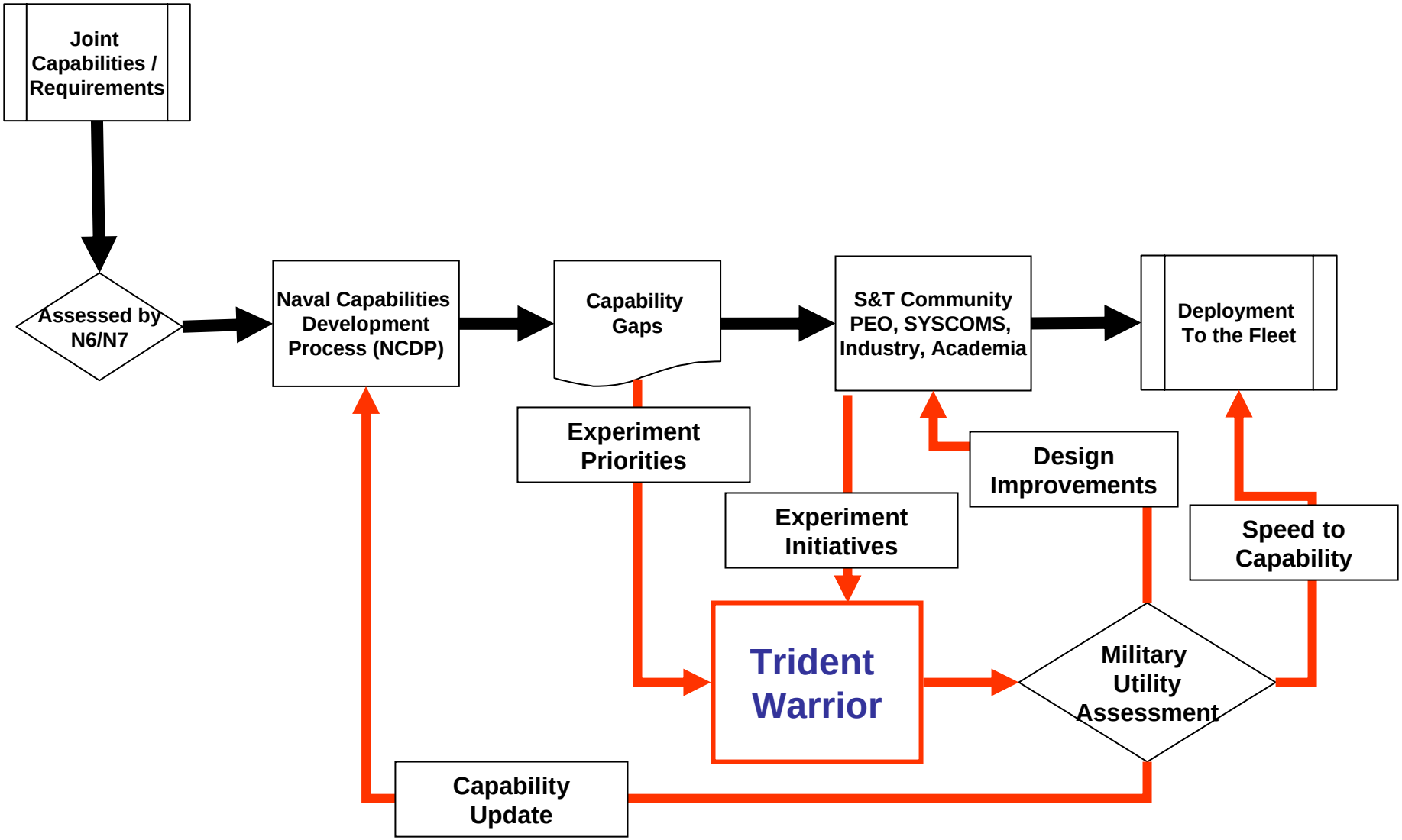


Fn5. Process, sort, analyze, evaluate, and synthesize large amounts of disparate information while still providing direct access to raw data as required.

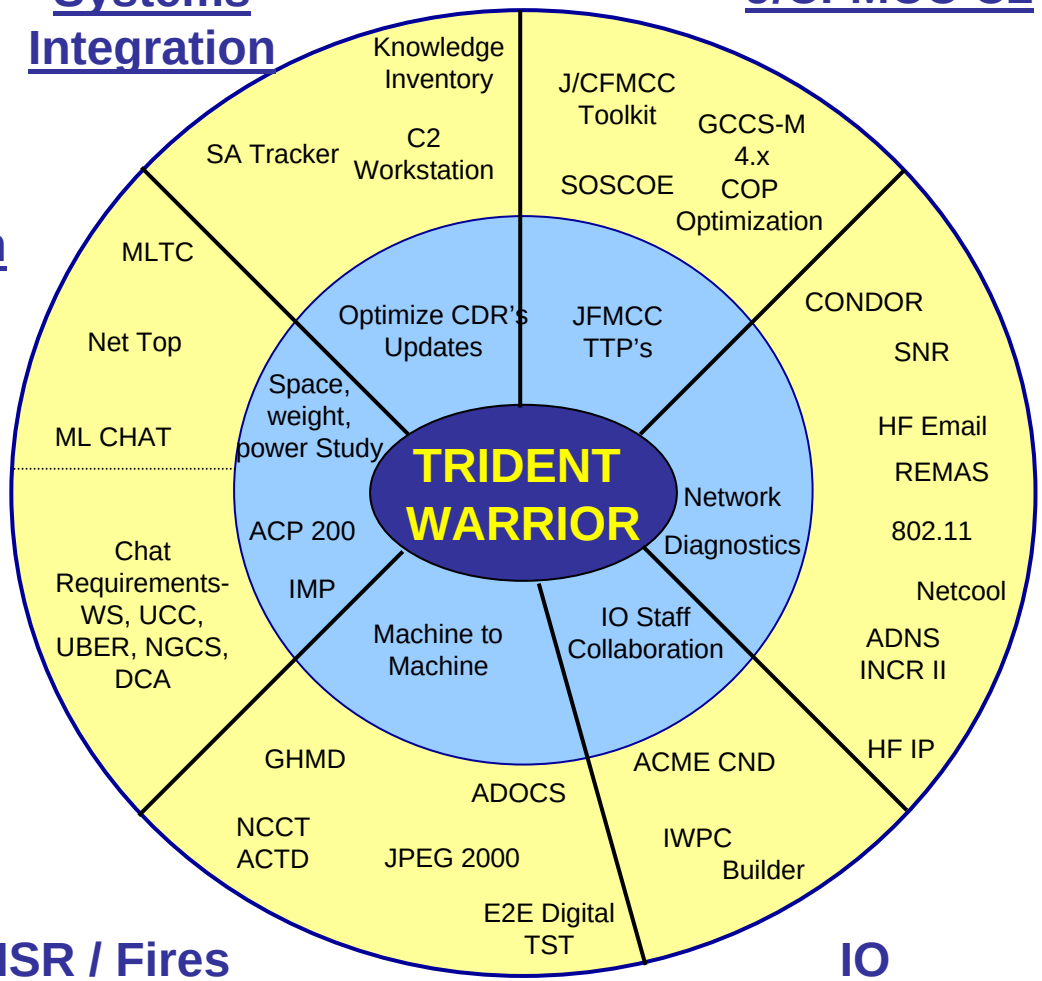
5.9. Synthesize information (refers to the cognitive process of combining elements of information and knowledge to form a more complex whole).

Attributes	Example Measures
Assured	*Confidence value* of synthesized data/information.
Capable	*Number* of types of information that can be accessed and synthesized.
Effective	*Percent* of information sources that refer to the same situation/object that can be synthesized.
Flexible	*Number* of different presentations that can be accomplished with synthesized information.
Sufficient	*Percent* of available multiple information types/sources synthesized. *Percent* of required syntheses that can be performed.
Timely	*Minutes/hours/days* to synthesize information.
Usable	Subjective determination of *usability* of synthesized information (fully, marginal, unusable).

Framework Influences Experimentation



Trident Warrior 05 Focus Areas



Key:

Technology

Tactics, Techniques & Procedures

Joint Warfighting S&T Plan (JWSTP)

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- Joint perspective horizontally across 6.2 and 6.3 plans
  - Support to requisite technology and advanced concepts for superior Joint and Coalition warfighting
  - Near-, mid-, and long-term needs of joint warfighter are properly balanced and supported
- Support the Joint Functional Concepts

Joint Warfighting S&T Plan (JWSTP)

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JWSTP-- Focus to blend emerging technology into warfighter needs

An agreement between Joint Warfighters and S&T Community

Example: DTO E.02 *Military Operations in Urban Terrain*

Objective: Demonstrate a situation awareness/communications/ geolocation capability in restrictive environments.

Technology Philosophy

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- Focused on standards-based technologies built on open architectures.
- Emphasis on core application components and services that are interoperable with Joint and others

Development of NTOs

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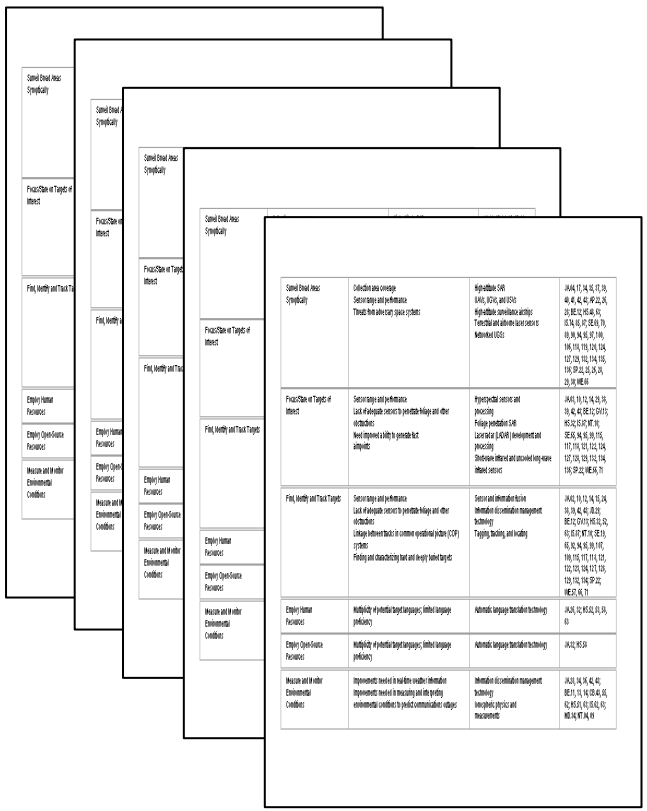
Joint Warfighting S&T Plan

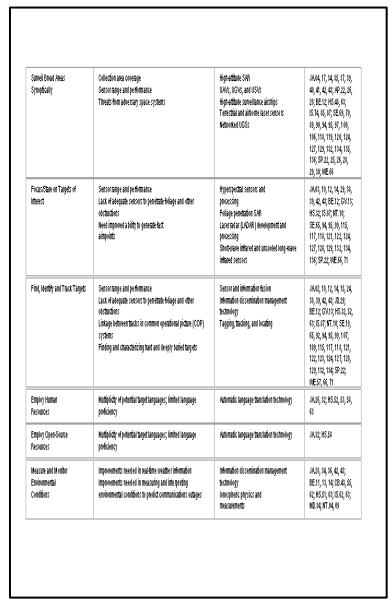


NC, C2, BA etc.

(1) Leverage

ITECH

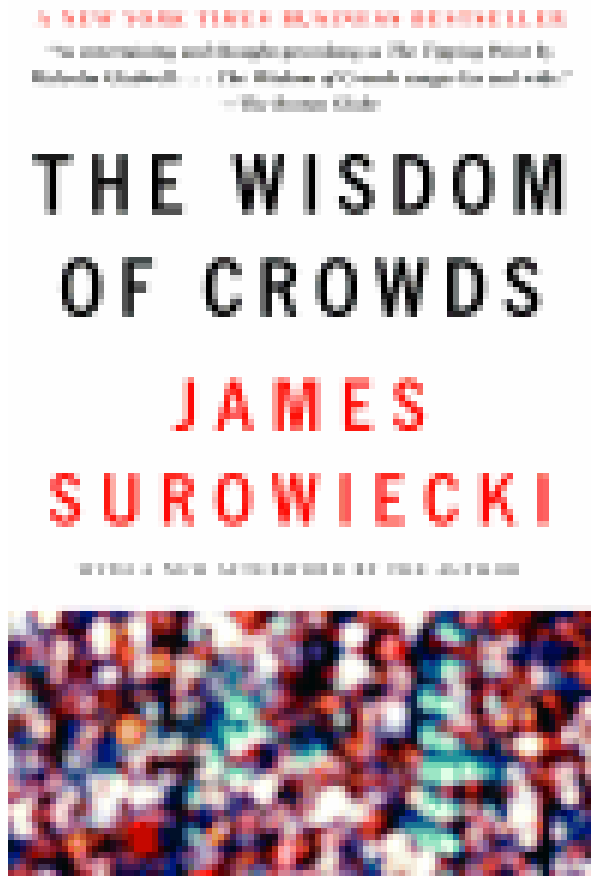
Net-centric S&T Plan



(2) Emendations:
On going S&T
Other stakeholders requirements (OAG etc.)

Value Added

- Provides framework necessary to shape S&T investment strategy
- Harmonizes time phased delivery of capabilities by stakeholders within the entire acquisition continuum
- Coordinates Naval S&T with Joint and other Service S&T
- Potential for alignment with other services
- Leverages Joint S&T (ACTDs etc.)
- Process for identifying Naval components to S&T plan
- Informs criteria for prioritization

Wisdom of Crowds

New Yorker columnist James Surowiecki explores a deceptively simple idea that has profound implications: large groups of people are smarter than an elite few, no matter how brilliant—better at solving problems, fostering innovation, coming to wise decisions, even predicting the future.